



Serial No.: 10/075,747

Applicants: GROWCOCK *et al.*

Reply to Final Office Action of May 19, 2004

Atty. Ref.: 11836.0703.NPUS00

PA-00108

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**LISTING OF CLAIMS:****1-24 (Canceled)**

25. (Withdrawn) A method comprising biodegrading by vermicomposting drilling cuttings coated with a drilling fluid, wherein the drilling fluid formulation includes a linear paraffin having 11-18 carbon atoms, a non-oleaginous phase, and an emulsifying agent.

26. (Withdrawn) The method of claim 25 further comprising mixing the drilling cuttings with a compostable waste material so as to provide a compostable balance of nitrogen and carbon content.

27. (Withdrawn) The method of claim 25 wherein the nitrogen and carbon content have a ratio of about 2:1 to about 100:1.

28. (Withdrawn) The method of claim 25 wherein the nitrogen and carbon content have a ratio of about 25:1.

29. (Withdrawn) The method of claim 25 wherein the vermicomposting is carried out in a bioreactor from a bin vermicomposter, a rotating drum vermicomposter, windrows or combinations of these.

30. (Withdrawn) The method of claim 25 wherein the drilling fluid further includes a weighting agent.

31. (Withdrawn) The method of claim 25 wherein the non-oleaginous fluid is selected from fresh water, sea water, a brine containing organic or inorganic dissolved salts, a liquid containing water-miscible organic compounds, and combinations thereof.

32. (Withdrawn) The method of claim 25 wherein the emulsifying agent is a euricid diglyceride.

33. (Withdrawn) A method for biodegrading drilling cuttings coated with a drilling fluid, the method comprising: exposing the drilling cuttings to a vermicomposting environment for a sufficient period of time to permit the worms to biodegrade the organic components of the drilling fluid.



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34. (Withdrawn) The method of claim 33 wherein the drilling fluid is formulated to include a linear paraffin having 11-18 carbon atoms, a non-oleaginous phase, and an emulsifying agent.

35. (Withdrawn) The method of claim 33 further comprising mixing the drilling cuttings with a compostable waste material so as to provide a compostable balance of nitrogen and carbon content.

36. (Withdrawn) The method of claim 33 wherein the nitrogen and carbon content have a ratio of about 2:1 to about 100:1.

37. (Withdrawn) The method of claim 33 wherein the nitrogen and carbon content have a ratio of about 25:1.

38. (Withdrawn) The method of claim 33 wherein the vermicomposting is carried out in a bioreactor selected from a bin vermicomposter, a rotating drum vermicomposter, windrows and combinations of these.

39. (Withdrawn) The method of claim 33 wherein the drilling fluid further includes a weighting agent.

40. (Withdrawn) The method of claim 33 wherein the non-oleaginous fluid is selected from fresh water sea water, a brine containing organic or inorganic dissolved salts, a liquid containing water-miscible organic compounds, and combinations thereof.

41. (Withdrawn) The method of claim 33 wherein the emulsifying agent is a euricic diglyceride.

42. (Withdrawn) A method of vermicular bio-remediation of oil contaminated solids, the method comprising providing the oil contaminated solids to a vermicular bioreactor, and allowing the worms within the vermicular bioreactor to biodegrade the oil contaminated solids.

43. (Withdrawn) The method of claim 42 wherein the drilling fluid is formulated to include a linear paraffin having 11-18 carbon atoms, a non-oleaginous phase, and an emulsifying agent.

44. (Withdrawn) The method of claim 42 further comprising mixing the drilling cuttings with a compostable waste material so as to provide a compostable balance of nitrogen and carbon content.

45. (Withdrawn) The method of claim 42 wherein the nitrogen and carbon content have a ratio of about 2:1 to about 100:1.



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46. (Withdrawn) The method of claim 42 wherein the nitrogen and carbon content have a ratio of about 25:1.

47. (Withdrawn) The method of claim 42 wherein the vermiculture bioreactor is selected from a bin vermicomposter, a rotating drum vermicomposter, windrows and combinations of these.

48. (Withdrawn) The method of claim 42 wherein the drilling fluid further includes a weighting agent.

49. (Withdrawn) The method of claim 42 wherein the drilling fluid further includes a fluid loss control agent.

50. (Withdrawn) The method of claim 42 wherein the non-oleaginous fluid is selected from fresh water, sea water, a brine containing organic or inorganic dissolved salts, a liquid containing water-miscible organic compounds, and combinations thereof.

51. (Withdrawn) The method of claim 42 wherein the emulsifying agent is a euricid diglyceride.

52. (Currently Amended) A vermiculture composition comprising: a plurality of worms; [ , ] oil contaminated solids, ~~a bulking agent, and a compostable nitrogen source,~~ wherein the oil contaminated solids include a solid material coated with an oleaginous phase substantially composed of a linear paraffin having 11-18 carbon atoms; [ , ] a bulking agent; a compostable nitrogen source; a non-oleaginous phase containing a salt of a biodegradable anion; [ , ] and an emulsifying agent in a concentration capable of forming an invert emulsion suitable for use as a drilling fluid.

53. (Currently Amended) The composition of claim 52 wherein the oil contaminated solids are selected from the group consisting of drill cuttings, drilling mud, oil contaminated soil, and combinations thereof.

54. (Currently Amended) The composition of claim 52 wherein the bulking agent is selected from the group consisting of sawdust, wood shavings, rice hulls, canola husks, shredded newsprint/paper; shredded coconut hulls, cotton seed hulls, and mixtures of these.



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55. (Currently Amended) The composition of claim 52 wherein the compostable nitrogen source is selected from the group consisting of yard wastes, household wastes, farm wastes, food preparation wastes, food processing wastes, paunch material, rumen material, animal rendering wastes, sewage sludge, and mixtures of these.

56. (Previously Presented) The composition of claim 52 wherein the composition has a carbon to nitrogen ratio of about 25:1 and a moisture content of about 75% by weight.

57. (Previously Presented) The composition of claim 52 wherein the composition further includes pretreated or pre-composted materials.

58. (Canceled)

59. (Original) A vermicast composition comprising vermicast and biodegraded drill cuttings.

60. (Currently Amended) A vermiculture composition comprising: a plurality of earth worms, oil contaminated solids, a bulking agent, and a compostable nitrogen source, wherein the oil contaminated solids include a solid material; an oleaginous phase substantially composed of a linear paraffin; a non-oleaginous phase; and, an emulsifying agent linear paraffin, a non-oleaginous phase and an emulsifying agent.

61. (Currently Amended) The vermiculture composition of claim 60 wherein oil contaminated solids are selected from the group consisting of drill cuttings, drilling mud, oil contaminated soil, and combinations thereof.

62. (Previously Presented) The vermiculture composition of claim 60 wherein the nitrogen and carbon content has a ratio of about 2:1 to about 100:1.



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63. (Currently Amended) The vermiculture composition of claim 60 wherein ~~the oil contaminated solids include an oleaginous phase substantially composed of linear paraffins, a the non-oleaginous phase including includes a non-oleaginous liquid and a salt of a biodegradable anion, and wherein the emulsifying agent is a biodegradable emulsifying agent.~~

64. (Currently Amended) A vermiculture feed composition comprising:

- a) oil contaminated solids wherein the oil contaminated solids are selected from the group consisting of drill cuttings, drilling mud, oil contaminated soil, and combinations thereof, and wherein the oil contaminated solids include: a solid material; an oleaginous phase substantially composed of linear paraffins; a non-oleaginous phase including a non-oleaginous fluid and a salt of a biodegradable anion; and, an emulsifying agent;
- b) a bulking agent; and
- c) a compostable nitrogen source.

65. (Previously Presented ) The vermiculture composition of claim 64 wherein the nitrogen and carbon content has a ratio of about 2:1 to about 100:1.

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